



Peruvian 1909 Mauser 7.65mm

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1. Definition

Within the confines of UK legislation I define classic rifles as a military bolt action rifle dating from 1895ish with the arrival of modern propellants to the end of the 1950's with the demise of the infantry bolt action rifle. There are exceptions, mainly bolt action rifles converted to more modern calibres such as 7.62mm in the 1960/70's and as such I will include them in this article.

2. About the Author

I am a Class 1 Armourer with 32 years of experience in both military and civilian life; I have completed MBA courses in light weapons and munitions design and successfully completed courses in Switzerland as a weapons technician, so therefore I am very fortunate when it comes to utilising my experience to source and identify a nice classic rifle. However this is not always the case and from time to time even I get caught out.

The notes below are written in plain English and they are designed to assist someone who has a basic knowledge of rifles through the potential minefield when purchasing a classic rifle.

3. General

When choosing a classic rifle please remember some basic common facts:

- These rifles can be nearly 120 years old and in most cases at least between 65 and 95 years of age.

- Rifles will have led a wide and varied life and in many times seen combat. They will have change hands many, many times as a result the working life of these rifles will vary greatly depending on its history.
- Rifles are acquired for a number of reasons but mainly they fall into the following categories, collections, affordability, sentimentality, competition and finally just for pleasure.
- With the exception of highly expensive and specialised collections most shooters will purchase rifles that are fairly easy to obtain, maintain and have a good availability of ammunition and reloading equipment. Once these supply lines start to run dry then those rifles will move into the more specialised collections and may only be shot once a year or not at all depending on their rarity or value.

For the point of this article I will only deal with the latter group of rifles, i.e. what the bulk of us will purchase. I will not deal with the specialised collector as their search criteria are quite different.

4. Suppliers

This is the point I will probably get shot!!!! So I will say I have no intention of offending anyone; this article is not aimed at any company, organisation, group or individual. This is my personal opinion based on long term experience.

Supplier standards vary massively from the superb to the absolute cowboys; however I sadly have to say that in my opinion, too many classic rifle suppliers in the UK sit in the mediocre bracket regardless of the size of their organisation. Only a few days ago I received a rifle via a courier where I had discussed the rifles condition over the phone with a small supplier and had been told that it was in good condition and that the condition of the bore was very good. Upon inspection I couldn't see down the bore for carbon, dirt and god knows what else, the magazine was unserviceable and I am now struggling to find a replacement. I have also received rifles from big suppliers only to find that the bore has been shot out. I could go on and on, however I think I have made my point. I know from experience that the good, reliable suppliers are far and few between.

The primary reason for this is that there is no "MOT" for guns, no standard that organisations must aspire to. The only legal requirement is that the guns must be "In proof". You might find that the Sale of Goods Act may also apply but I have never seen it utilised.

However in fairness to the genuine supplier it is not cost effective to fully restore a classic rifle to its former glory, The rifle may cost £250 to acquire, restoration may take up to 8hrs of work, at £25 per hour that's £200, add £250 plus 30% mark up, plus VAT and your looking at £800. Nobody will buy a standard classic rifle for that amount. However I do not think it unreasonable to expect the following which would cost very little and increase standards considerably:

- The rifle should be cleaned and in-inspected at the point of receipt.
- This should be done by a competent person.
- Confirm prior to sale that the rifle is in a safe, serviceable condition, clean with the ability to shoot safety.

To sum this section up I will ask you a question; would you spend good money on a second hand car that has not passed its MOT, has not been test driven, has not been valeted or serviced by the time of purchase.

Whilst some buyers buy the rifles with the intention to restore and they gain pleasure in doing so, the vast majority rely on what experience they have and lady luck. In the current market place I would suggest it is fair to say that you stand an above average chance of buying a problem – so buyers beware.

The solution is to shop around, identify a good supplier that knows his stuff and ask if he has qualifications, i.e. Armourer, gunsmith or toolmaker. Once you have found a good and trusted supplier, stick with him, you may pay a little more as he will do more work but you will not be left with a bad or even worse a dangerous rifle.

5. Safety

As with all firearms, if you pick up any firearm for the first time, check the chamber, magazine and ensure the rifle is safe. You would be amazed that some people do not clear their firearms including the dealers. I have come across a Winchester and a L42A1 where there have been rounds in the magazine and or the chamber.

6. Barrel

Barrel condition is of paramount importance when purchasing a classic rifle. Barrels range from new to thoroughly worn out and clearly you don't want the latter but if the supplier hasn't cleaned the barrel, how can you tell reliably what the barrels condition actually is. A barrel doesn't have to be new but it does have to be reasonable, otherwise the rifle will be inaccurate and the life of the rifle is greatly reduced.

If the barrel is dirty ask the supplier to clean it. If he refuses or makes excuses not to do it, walk away.



I grade barrels by quarters of life, i.e. 1st quarter 1 -1000rds, 2nd quarter 1000-2000 and so on. These figures are not set in stone but give a rough idea. The 4th quarter is the end of the barrels life, where it can no longer function as an accurate barrel. The number of rounds a barrel can fire vary from barrel to barrel, manufacturer, type of rifle, how its been maintained and ammunition type used.

- **1st Quarter**

The barrel does not have to be new but the rifling lands should have crisp right angled edges. This also applies to the commencement of rifling or lead where most of the early wear takes place.

- **2nd Quarter**

The lands and grooves are still pronounced but the edges of the lands are starting to show wear as is the lead. This is acceptable as long as the barrel remains accurate.

- **3rd Quarter**

The edges of the lands are clearly rounded and the lead is showing increased levels of wear. The distance for the bullet to jump from the case to the rifling has increased to such a point that accuracy can be affected and the bullet can be misaligned with bore. Barrels with this level of wear should be test fired for accuracy prior to purchase.

- **4th Quarter**

The bore and lead are clearly worn to the point where the barrel is coming to the end of its life and in many cases can be described as shot out. The rifling is deteriorating to point that the bullet fails to seal in the bore; the bullet is losing its rotational stability which causes the bullets to present themselves "broadside" to the target. This is common on machine gun barrels.

If you are purchasing a commonly available Lee Enfield/Mauser then only first and second quarters should be acceptable. If you are considering an unusual Mauser and you intend shoot only once or twice year then up to 3rd quarter may be acceptable as long as the rifle maintains a reasonable standard of accuracy.

Pitting

The barrel warms up during firing and after firing when the barrel cools moisture forms in the pores of the metal like little droplets. If the barrel is not cleaned and oiled after firing those droplets start the rusting process. The rust eats away at the bore and causes the pitting.

Whilst pitting can affect all parts of the barrel, small amounts can be acceptable as long as it doesn't effect accuracy.

Bent barrel

I have never seen a bent barrel on a classic rifle in civilian life which has been caused by misuse. I have seen barrels on new firearms that are distorted . However that is not to say that they are not out there. These are old classic military rifles which might have seen an aggressive life, so if you are not sure get the barrel checked out by a knowledgeable Armourer or gunsmith. There is a technique for viewing barrels and you can obtain bore gauges which pass through the bore to indicate straightness if there is a problem.

Lead

The lead or commencement of rifling is were the bullet jumps from the case and engages into the rifling. The ideal distance for this jump is approx 0.025" however don't expect this on classic rifles. Distances vary from manufacturer to manufacturer and remember these are combat weapons, not target rifles. In wartime manufacturing standards will fall and a good example of this is the Mosin Nagant rifle where many rifles were literally manufactured and place straight into the hands of the infantryman from the factory, so expect generous tolerances.

The key factor with a worn lead is where the bullet has to jump so far that it has the opportunity to misalign with the bore. This distance can be simply measured and if you are unsure ask the supplier to measure it. (If he knows how to that is)

Bulged barrel

A bulged barrel is identified as a black ring when you look through the bore and you cannot see it if the barrel has not been cleaned. It is usually caused by water or oil being left in the bore. As the bullet passes up the bore these fluids build up in front of the bullet and cannot get out of the way and as a result something has to give and that is the barrel. The fluid is forced pass the bullet and the barrel bulges to accommodate it leaving the black ring effect.

Bulges don't always affect accuracy but ultimately it is a fault, gases can get pass the bullet, increased erosion will take place, so therefore do not buy a rifle with a bulged barrel.

Barrel Crown

The condition of the crown is important. Most classic rifles have a round crown and this should be in good condition. Any wear or damage to the crown will cause the propelling gases to exit the bore unevenly, which in turn will affect the stability of the bullet causing poor accuracy.



No4 Crown

External Quality

Loss of protective finish is a cosmetic issue and does not affect performance. Some pitting is acceptable but should not be excessive. Barrels have front and sometimes rear sights attached, so you must consider the serviceability of these items especially where the shortage of spares may be an issue.

There are not many spare barrels on the market for classic rifles so therefore fitting a new barrel will probably cost you at least half the price what you paid for the rifle in the first place. If you have to have a new barrel manufactured, expect to pay £600 plus, so ensure the rifle you buy has a good barrel.

7. Receiver

The receiver does not suffer from the same wear rate as a barrel, however it supports the vast majority of functional parts of your rifle and it withstands a considerable level of pressure. Therefore any problems that are not identified can be disastrous to your purchase.

As you are probably aware some rifle designs dictate that the bolt locks into the barrel, others like the Enfield lock into the receiver. Pressures vary but typically a receiver must withstand around 21 tonnes PSI. It is imperative therefore that the receiver should be in good condition.

Distorted Receiver

A distorted receiver is usually caused by some “unqualified and self appointed gun expert” who removes a barrel but does not correctly support the receiver. It is almost impossible to identify this fault just by picking a rifle up of the bench and if the rifle shoots and functions acceptably it should be left alone.



If you do suspect a distorted receiver you should take the rifle to an Armourer/gunsmith to obtain conformation. If confirmed the only course of action is to return the rifle to the supplier and request a replacement or a refund. To be honest the dealer has probably been caught out as well, so a sympathetic approach may be appropriate.

Worn Receiver

A worn receiver is where the bolt has been cycled so many times it is excessively loose in the receiver. Whilst I have come across this problem in Enfield's, it is most prolific in Mauser's. In worst case scenarios the bolt will over ride the round in the magazine and will fail to feed.

This problem cannot be solved by replacing the bolt as it is the receiver that is worn. Replacing a receiver is costly so if you suspect a sloppy bolt when cycling the rifle it is not a good idea to go ahead with the purchase.

Fractured Receiver

I have never seen one on a classic rifle, which is not to say they are not out there but they are certainly rare. A fractured receiver is where a fracture or crack appears in the receiver at a weak point. I have seen them most in modern rifles that utilise a casting process to fabricate the receiver. As classic rifles are machined from a solid ingot of steel, the build quality is far superior and this fault rarely appears.

If you are unfortunate to identify a fractured receiver the only option is to have it replaced.

Sights

Sights can be checked at the time of purchase. Simply ensure they work effectively. Look especially for weak springs as this fault cause the sight to move when the rifle recoils

8. Serial number

I cannot count the times that I have heard the comments “Unless it has matching numbers I will not buying it” or it “must have matching number or I'm not interested”

I can guarantee you that most, if not all classic rifles have had some of their serial numbers altered or replaced at some time in their long lives.

As an Armourer I was taught to do this as routine practice. For example a rifle would come in for a repair that required the bolt to be replaced, the new bolt would have all its associated parts fitted, it would be gauged for headspace and then renumbered as per the main serial number. The main serial number is always the number on the receiver. This process is carried out by professional armys all the time in peacetime conditions but imagine what happens in wartime or in a country that has a poorly trained or non-existent maintenance service.

Another factor is that at sometime in the rifle's life it will go through a major factory rebuild. Barrels, bolts, everything will be replaced and the original number will be ground off and a new one issued. This is particularly common on British Enfield's.

The overriding priority when buying a classic rifle is its overall condition, if it is in pristine condition but the bolt serial doesn't match it is not the end of the world. Purchase the rifle and get the number changed by an Armourer/Gunsmith with the correct gauges to match the rest of the rifle.

9. Bolt

The bolt is central to a good rifle. It feeds the cartridge from the magazine into the chamber, locks that round in the chamber, supports the firing pin mechanism, extracts and ejects the cartridge.

Bolt face

The bolt face should be fairly clean and in good condition; a common fault is "ringing". Ringing is a physical ring that surrounds the firing pin hole and is mainly caused by corrosive primers and poor cleaning. Slight superficial ringing is acceptable however deep ringing should be avoided.



Other faults on the bolt face are an enlarged firing pin recess and dents/burrs etc. It is possible to have dents/burrs removed but this must be completed by a competent person. Enlarged firing pin holes are usually identifiable by inspecting the primer after firing. If there is a tell-tale sign of a bulge the size of the firing pin hole you know there is an issue. However the issue does not become a problem until the primer ruptures and allows gas to enter the bolt. At this point the bolt has to be replaced.

Fractures

If something fractures on a rifle it is usually the bolt. Fractures most commonly occur in and around the bolt face or the locking lug as this is where the most stress takes place. If you suspect a fracture I would return the rifle and point out the problem. This is a serious safety fault and it needs to be repaired before the rifle can be fired.

Firing Pin

Check the firing pin has a nice rounded face and that it functions correctly. There are a number of common faults with firing pins but it is not always easy to spot them at the time of purchase.

One problem is light strikes, they are not disastrous and are caused by a damaged spring/firing pin, weak spring or the firing pin assembly is in desperate need of a service. The first time you will notice this problem is usually on the range when you have released the sear and nothing goes bang. Go and see a good Armourer and he will sort it out for a moderate fee.



Safety Catch

With Mauser's the safety is mounted on the firing pin shroud. With other rifles such as the Enfield it is mounted on the receiver, either way, cycle the bolt and check if you can apply the safety catch. If the safety fails to work, ask the dealer to fix the problem prior to you purchasing the rifle. It is unacceptable that a dealer sells a rifle with an in-operative safety mechanism. You could compare it to buying a car without functional brakes.

I purchased a rifle only a month ago where the safety catch did not work. It pointed to other problems and as a result I had to spend a reasonable sum to correct a host of problems prior to selling the rifle on. The dealer had clearly not bothered checking and if he had noticed he was quick to pass on the fault.

Extractor

It works or it doesn't and you probably won't find out till you're on the range. However the good news is there is usually plenty of spares and they cost very little to repair.

10. Woodwork

You can check 75% of the wooden furniture at the time of purchase. The biggest issue with the woodwork is fractures. If they are minor you can probably repair them but if they major, the woodwork may be beyond repair. Replacing a stock may cost you £100 or more which is usually a third of the price of the rifle. So try to avoid any woodwork with substantial fractures.

Most rifles come with woodwork which is usually bruised and sometimes with considerable dents and gauges. This is up to you as to how much damage you are prepared to accept but it is easily repaired.

11. Magazine

Magazines are central to a good classic rifle and you should treat them with the same



loving care you bestow on your rifle, unfortunately many people do not. They are often dented and the feed lips distorted. Therefore when checking the rifle it is imperative that you check the magazine, avoid dents and distorted lips, remove and refit the magazine ensuring it is a smooth process.

Some magazine have an ejector fitted in the form of a projection or plate, make sure these items are in place and serviceable. This type of magazine tends to be very rare and getting a replacement is difficult.

An example of this type of magazine is for the 7.62mm Enfield's

12. Proof marks

Ensure you have proof marks on the barrel, bolt and sometimes the receiver. On rifles such as Enfield's which have separate bolt heads, both the head and the bolt are often marked.

The problem with classic rifles is that you can be absolutely swamped by a huge array of markings, not all of which are proof marks. The rifle could have re-proofed many times throughout its life and which one is current can be very confusing. New or recent proof marks are usually bright in appearance as they have been etched or engraved. Old proof marks are usually stamped, full of paint and reflect their age, however this does not necessarily mean the rifle is out of proof.

You can purchase a book from the Proof house but the easiest way if you have concerns is to email or phone the London or Birmingham proof house and ask their advice.

I do not intend to go into this subject in great depth as it is a complicated subject, suffice to say it is the seller's responsibility to ensure the rifle is correctly proofed prior to sale. Falling foul of the proof laws can result in a £1000 fine per proof mark and if you are a dealer, the loss of your RFD certificate. This law also applies to private sales, so be warned.

If you are purchasing a rifle and you are not sure about proof marks, ask the supplier, if you import a rifle you may need to get the rifle re-proofed as we do not recognise every country's proofing system, the USA is a good case in question. If you replaced any bolt, barrel, receiver or bolt head it will need re-proofing. If you are not sure - CHECK

13. Spares

The more scarce the rifle, the more difficult it becomes to obtain spares. Age, place of origin, numbers of rifles manufactured, all have their impact, so it is wise to do your research.

For common Enfield's and Mauser's it is relatively easy to obtain spares, however for rifles like the Lee Enfield No4T Sniper rifle certain spares have become a real problem. The rarity of these rifles has thrown the value through the roof with prices in excess of £4000.00 now a regular occurrence. Certain spares for these rifles are equally rare which has thrown up two issues, lack of availability and replicas.

Replicas

In my opinion replicas are acceptable as long as they are manufactured as good or better than the original. However beware of sub standard replicas.

Lack of availability

Spares which are rare will simply cost you a lot more money to obtain. I am seeing Enfield magazines and rear sights going for £40.00 or more so you must factor this in when purchasing your rifle and your intended use of the rifle.

14. Rifles assembled from spares

If you can confirm that you have a rifle that was assembled from spares by a Military arsenal, manufacturer or a recognised workshop then there is a every chance you have got an acceptable rifle, as this practice was quite normal.



However a big word of caution as the practice is also conducted by dealers, especially with high value items such as Sniper Rifles. If the dealer is a genuine competent dealer, Armourer or Gunsmith he will advertise the fact that the rifle has been assembled from spare parts and his sale price will reflect this. It is the unscrupulous and unskilled dealer that will try and pass on a non-genuine rifle. The most common rifle that fits this bill is German Mauser sniper rifle. Many were destroyed after the war and the genuine ones that survived are highly prized and in collections or museums. If one comes onto the market place it is rare, therefore if you see a glut of them at a trade show, you should approach the subject of purchasing one with caution and really carry out your homework.

15. Warranty

Would you expect a warranty on a 70 year old rifle? The answer should be yes. You won't get a warranty like you would on a new car, but you should ask the dealer what he is prepared to offer. I personally think it is not unreasonable to expect something reasonable such as making good any repairs not identified at the time of sale or if the fault is serious, than an offer of refund or replacement.

16. Inspection

Below is a rough guide to inspecting a classic rifle from a buyer's point of view, i.e. when you actually looking at the rifle at a trade show or at a dealers premise. You must always start at one end of the rifle and work your way to the other. In my case I always start at the muzzle and work my way to the butt. You will need two tools, an inspection light for inspecting the bore and some bright coloured action testing dummy rounds. Use the dummy rounds to test the action and the magazine. Do not use drill rounds as they look too much like the originals and people will rightly start panicking when you start putting rounds in a magazine at a trade show.

1. Check the rifle is safe
2. Check the muzzle and the crown for damage
3. Check the fore sight assembly ensuring that it functions, the fore sight blade and the fore sight protectors are not distorted.
4. Check the woodwork, are there any fractures or bits broken off; ensure that the sling swivels function; if there is suppose to be a cleaning rod, is it present.
5. Check the rear sight; does it function correctly and is it legible.
6. Check the receiver; is the ejector screw present (Enfield's); does all the components function such as the bolt release, ejector, magazine release.
7. Cycle the bolt, ensuring it is not to loose; apply the safety catch ensuring it functions correctly. If you have action proving dummy's, cycle them ensuring the bolt feeds and extracts and ejects reliably.
8. Check the serial numbers, mainly receiver and bolt but on Mauser's all the sub components like bolt shroud and magazine base plate etc
9. Remove and check the bolt; look for ringing on the bolt face and any other obvious damage.
10. Check the extractor, does it function correctly.
11. On Enfield's the bolt head should not rotate more than 15%.
12. Check the cocking piece for any signs of damage.
13. Check the bore, use natural light if possible, if not, utilise an inspection light. Remember the bore must be clean.
14. Refit the bolt and check the bolt release and in the case of Mauser actions the ejector.
15. Cycle the bolt and check the trigger, all common military classics have a two pull trigger release.
16. Check the butt for security, fractures, the rear sling swivel and the butt trap function correctly if fitted.

Whilst there is always a risk that you may have missed something, carrying out the above will minimise that risk.

17. Summary

Classic military rifles have the ability to bring great pleasure to their owners, there not just a mechanical object for shooting but they provide a window for their owners to study the rifles history, owners can collect the various accessories that accompany these rifles and other like to restore these rifles to their former glory.

Whatever your interest buying a problematic rifle just brings unpleasantness, so it is my wish that the above information minimises all that trouble.

18. Note: Unfortunately in this legislative world we live in I have to add a disclaimer. Whilst this article is design to help people, there are those out there who wish otherwise.

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